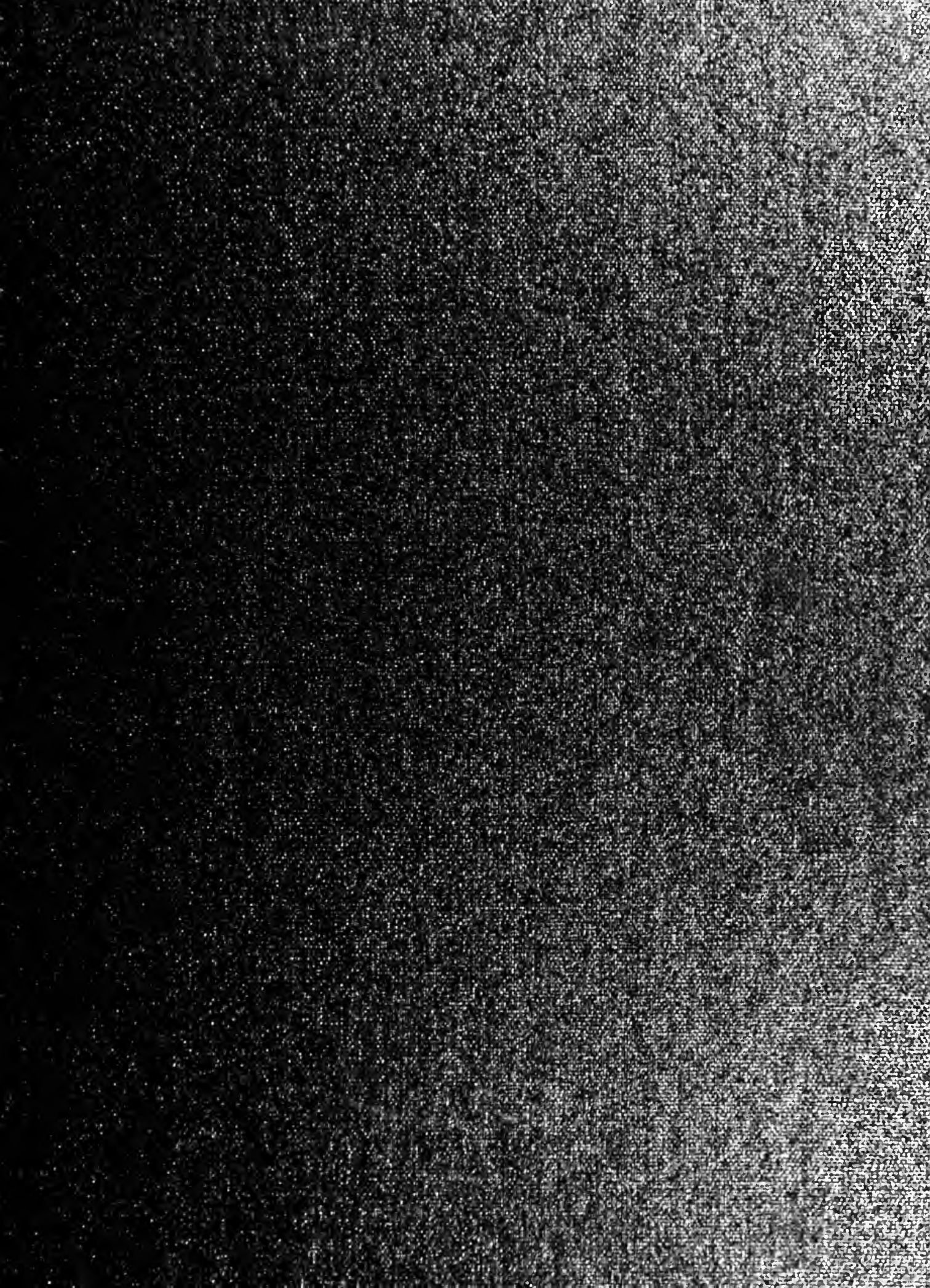

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Short-Run Financial Management: An Annotated Bibliography

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Short-Run Financial Management: An Annotated Bibliography

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ABSTRACT

This publication presents an annotated bibliography of the major research publications in short-run financial management literature since 1950. The publications are classified into major research areas and cross classified into subtopic areas. A reference matrix provides a classification framework and the cited literature related to each topic is presented on a separate table. The objectives of the annotated bibliography are to provide a basic source document for encouraging research development in short-run financial management and to stimulate learning in a dynamic segment of financial management.

SHORT-RUN FINANCIAL MANAGEMENT: AN ANNOTATED BIBLIOGRAPHY

In 1973, Keith Smith [1973] presented a classic article on the "State of the Art of Working Capital Management." The article summarized and synthesized the working capital management literature. Smith legitimized the subject, established the rationale for studying the management of working capital and created an environment for academic research. He reviewed various approaches that had been pursued in creating a framework for studying working capital management and he concluded by suggesting directions for future research efforts.

The conceptual base of working capital management expanded rapidly during the past decade to encompass the management of both stocks and flows. Managing cash inflows and outflows and controlling the level of short-run assets and liabilities is more accurately described as short-run financial management (SRFM). The SRFM components are closely related to the long-run financial plans of the firm and they directly contribute to the value of the firm.

Objectives

The objectives of this publication are:

1. To present an annotated bibliography of the major research publications in short-run financial management literature since 1950;
2. To identify major research areas that exist within short-run financial management literature;

3. To classify each publication into its primary topic area and to cross classify the publications that are related to more than one topic area;
4. To provide a basic source document that will aid students and scholars develop research interest in short-run financial management;
5. To provide a guide to the literature and create an exciting learning environment.

Annotated Bibliography

The annotated bibliography contains a brief paragraph on each publication. The objective of the annotation is to provide a capsulized overview of each article. There are annotated remarks on 129 separate publications that relate to short-run financial management. The publications are listed alphabetically.

Classification

The literature was divided into 15 separate research areas. Frequently, a publication will involve more than one research area, therefore, we cross classified each article. A reference matrix is located after the annotated bibliography and it presents a classification overview of the short-run financial management literature. The 15 research areas are presented in matrix form. A table is cited for each cell when there are existing publications. A table contains all of the references for a specific topic. Tables 1-13 contain the major reference topics and list the publications that are reflected in the

diagonal of the reference matrix. Tables 14-42 reflect cross referenced publications. The reference matrix makes it easy to identify the topics and the tables provide the list of references for each topic.

Annotated Bibliography

Gordon J. Alexander and James M. Gahlon, "An Approach to Determining the Firm's Optimal Cash Discount Policy," Journal of the Midwest Finance Association, Vol. 9 (1980), pp. 40-46.

This paper expands the works of Christie (1979) and Hill and Riener (1979) on the theory of optimal credit policy by developing an approach that recognizes that the discount period, as well as the discount rate, is a firm-level decision variable. A normative model is specified for determining the optimal values for both the discount rate and the discount period under the assumption that the fraction of sales to be paid with a discount and the change in sales are functions of both these decision variables. The model also considers the tax effect of cash discount policy.

Edward I. Altman, "Financial Ratios, Discriminant Analysis and the Prediction of Corporate Bankruptcy," The Journal of Finance, Vol. 23 (September 1968), pp. 589-609.

This work seeks to assess the analytical quality of ratio analysis. In order to evaluate its potential rigorously, a set of financial ratios was combined in a discriminant analysis approach to the problem of corporate bankruptcy prediction. The theory is that ratios, if analyzed within a multivariate framework, will take on greater statistical significance than the common technique of sequential ratio comparisons. The results show that the discriminant-ratio model predicts bankruptcy correctly in 94% of the initial sample.

Edward I. Altman, R. Halderman and P. Narayanan, "Zeta Analysis: A New Model to Identify Bankruptcy Risk of Corporations," Journal of Banking and Finance, Vol. 1 (June 1977), pp. 29-54.

The authors develop a zeta model for the prediction of bankruptcy in corporations. The authors use current financial ratios in a multidiscriminant analysis model to classify failed companies. Current study results show the useful application of the model to credit assessment, portfolio management, and performance analysis. The model accuracy ranges from 96% one year prior to failure, to 70% five years prior to failure.

Edward I. Altman, "Examining Moyer's Re-examination of Forecasting Financial Failure," Financial Management, Vol. 7 (Winter 1978), pp. 76-79.

This comment assesses Moyer's (1977) re-examination of the original Altman (1968) failure forecasting model. It also presents documentation and interpretation of the evidence embodied in Moyer's sample. Altman concludes that Moyer oversimplifies comparison tests and variable importance criteria; thus, the conclusions reached by Moyer are questionable.

James S. Ang, Jess H. Chua, and Ronald Sellers, "Generating Cash Flow Estimates: An Actual Study Using the Delphi Technique," Financial Management, Vol. 1 (Spring 1979), pp. 64-67.

Cash flow estimates necessary for evaluating financial decisions are either assumed given or discussed only in abstract terms. This paper describes an attempt to implement a formalized procedure for obtaining cash flow estimates to make a capital budgeting decision concerning a new product, using a modified version of the Delphi technique.

Joseph C. Atkins and Yong W. Kim, "Comment and Correction: Opportunity Cost in the Evaluation of Investment in Accounts Receivable," Financial Management, Vol. 6 (Winter 1977), pp. 71-74.

The authors present an NPV approach to evaluate investment in accounts receivable. They say that the conventional approach underestimates capital costs and Oh's (1976) overestimates the opportunity expense of investment in accounts receivable. The authors present a wealth maximization method for evaluating investments in accounts receivable. Uncertainty conditions were not included in the analysis.

Morton Backer and Martin L. Gosman, "The Use of Financial Ratios in Credit Downgrading Decisions," Financial Management, Vol. 9 (Spring 1980), pp. 53-56.

This is a summary report of a study compiled for the National Association of Accountants. It focuses on the major questions of their study, i.e., decision processes described by credit raters, specific liquidity/illiquidity threshold points, deterioration in particular financial measures as associated with downgrading, and congruity between the measures.

Carl A. Batlin and Susan Hinko, "A Game Theoretic Approach to Cash Management," The Journal of Business, Vol. 55 (July 1982), pp. 367-381.

> This paper utilizes the methodology of game theory to analyze the optimal use of cash management tools by interactive firms. The distribution of float between debtors and creditors is examined, and it is found that, in the absence of strategies which alter the total size of the float, the equilibrium is more favorable to creditors. Conditions are given under which the equilibrium will be obtained through the use of pure or mixed strategies.

Carl A. Batlin and Susan Hinko, "Lockbox Management and Value Maximization," Financial Management, Vol. 10, (Winter 1981), pp. 39-44.

> The authors present a capital asset pricing model to determine the optimal number of lockboxes needed to maximize a firm's value. This decision model is more general than profit maximization models, but it is consistent with lockbox studies which recommend maintaining more lockboxes than determined by the profit-maximizing rule. The benefits of income smoothing are used to justify maintaining additional boxes in order to keep good relations with various banks, even though they are not cost effective.

William J. Baumol, "The Transactions Demand for Cash: An Inventory Theoretic Approach," Quarterly Journal of Economics, Vol. 66 (November 1952), pp. 545-556.

> This classic paper treats the stock of cash as its holder's inventory of the medium of exchange and, like the inventory of a commodity, cash is held because it can be given up at the appropriate moment, serving then as its possessor's part of the bargain in an exchange. The study relates inventory theory and monetary theory, by applying a well-known result in inventory control analysis to the theory of money.

William H. Beaver, "Financial Ratios as Predictors of Failure," Empirical Research in Accounting: Selected Studies 1966, supplement to Journal of Accounting Research, Vol. 5 (January 1966), pp. 71-110.

> The primary concern of this study is not with ratios per se but the accounting data that comprise the ratios. The basic premise is that accounting data can be evaluated in terms of their utility and that utility can be defined in terms of predictive ability. The issue is not predictors of failure per se but rather with financial ratios as predictors of important events--one of which is failure of the firm. This

works concludes that although ratio analysis may provide useful information, ratios must be used with discretion: not all ratios predict equally well and ratios do not predict failed and non-failed firms with the same degree of success.

William H. Beaver, "Alternative Accounting Measures as Predictors of Failure," The Accounting Review, Vol. 43 (January 1968), pp. 113-122(a).

The purpose of this paper is to emphasize the need for empirical verification of a priori beliefs and to illustrate a method for empirically evaluating alternative accounting measures. The event chosen for study is failure because accounting data in the form of financial ratios are in widespread use as predictors of failure. The evidence indicates that the non-liquid asset measures predict failure better than the liquid assets measures, even in the years immediately before failure. The study also demonstrates the feasibility of evaluating alternative accounting measures in terms of their predictive ability.

William H. Beaver, "Market Prices, Financial Ratios and the Prediction of Failure," Journal of Accounting Research, Vol. 6 (Autumn 1968), pp. 179-192(b).

This paper describes an investigation of the extent to which changes in market prices of stocks can be used to predict failure, in addition to financial ratios. The work is also concerned with the reliance investors place on financial ratios in assessing the solvency positions of firms. An attempt is made to explore the degree of association between financial ratios and market price changes, when both are seen as predictors.

Moshe Ben-Horim and Haim Levy, "Management of Accounts Receivable Under Inflation," Financial Management, Vol. 12 (Spring 1983), pp 42-48.

The authors investigate the relationship between the terms of credit and the rate of inflation. The cases of fully anticipated inflation and inflation risk are examined. The authors conclude that with inflation risk the buyer is more likely to make early payments even if the percentage real interest rate benefit is lower than the no risk solution. This is because the buyer avoids the cost of credit and eliminates the risk involved.

Haskel Benishay, "A Stochastic Model of Credit Sales Debt," Journal of the American Statistical Association, Vol. 61 (December 1966), pp. 1010-1028.

This paper develops a stochastic model of accounts receivable and expresses the expectations and variances of (1) credit sales, (2) collections, (3) bad debts, (4) collections plus bad debts, and (5) accounts receivables outstanding. The paper discusses features of the results of the model and provides an empirical example.

William Beranek, "Financial Implications of Lot-Size Inventory Models," Management Science, Vol. 13 (April 1967), pp. B401-B408.

The definition of the cost of resources devoted to inventories which is inherent in the economic-lot-size procedures implies financial conditions which may not exist. Thus, the indicated optimum inventory may be either too high or too low. This situation can be improved by reflecting the firm's actual financial arrangements in the model's carrying cost equation and deriving the corresponding optimum lot size. The results obtained by adopting this procedure are compared to those that emerge from an application of the standard lot-size model.

Harold Bierman, Jr. and Warren H. Hausman, "The Credit Granting Decision," Management Science, Vol. 16, Series B (April 1970), pp. B519-B532.

The authors formulate a series of probabilistic models for the credit granting policy of a firm. First, a single-period analysis is presented for the two-action problem, "give credit or do not give credit." Then a multi-period analysis for the same problem is presented, incorporating a Bayesian approach to revisions of the probability of collection as experience is gained. Next, a dynamic programming formulation of the multi-decision problem is presented, and this formulation is then adapted to include a decision on how much credit to offer.

Harold Bierman, K. Chopra and L. Joseph Thomas, "Ruin Considerations: Optimal Working Capital and Capital Structure," Journal of Financial and Quantitative Analysis, Vol. 10 (March 1975), pp. 119-128.

This paper is an attempt to interrelate working capital and capital structure decisions with working capital used not only as a buffer to avoid ruin but also to affect sales via changing inventory levels and credit policies. The possi-

bility of ruin introduces a discontinuity that precludes perfect elimination of leverage effects via a market. In this paper the acquired working capital serves as a buffer against ruin, as well as a means of increasing earnings, while the debt used to finance the working capital increases the size of fixed payment obligations, and the cost of debt tends to reduce the total earnings of stockholders.

Menachem Brenner and Seymour Schmidt, "Asset Characteristics and Systematic Risk," Financial Management, Vol 7 (Winter 1978), pp. 33-39.

The authors present a model that determines a sequence of values for a multi-period asset. The model is useful when there is a large change in the market value of a firm's equity that can be explained in terms of known changes in fundamental characteristics of the firm's assets, or from important changes in its operating or financial policies. The model allows systematic predictors of the relationship between a change in a characteristic of the asset and changes in its risk, market value, and expected rate of return.

L. D. Brown and M. S. Rozeff, "Univariate Time-Series Models of Quarterly Accounting Earnings Per Share: A Proposed Model," Journal of Accounting Research, Vol. 17 (Spring 1979), pp. 179-189.

The authors examine three different Box and Jenkins (1970) models to explain the time series of most firms' quarterly accounting earnings per share. The models were tested over several horizons and holdout periods. Using Box and Jenkins (p,d,q) terminology, the (1,0,0) x (0,1,1) model was superior to the (0,1,1) x (0,1,1) and the (1,0,0) x (0,1,0) models. The authors recommend the model as a replacement for identification of individual Box and Jenkins models, and as a benchmark model for evaluating security analysts' or time-series models quarterly earnings forecasts.

Michael D. Carpenter and Jack E. Miller, "A Reliable Framework for Monitoring Accounts Receivable, Financial Management, Vol. 8 (Winter 1979), pp. 37-40.

The authors develop and illustrate a framework for accounts receivable analysis that is based on a weighted days sales outstanding in receivables and is independent of both the sales-averaging period and the pattern of sales. The procedure developed by the authors is similar to Freitas' (1976), but weights the days by the percent of monthly sales uncollected at the end of each period instead of weighting daily sales. This method allows managers to see improvement or

deterioration in collection experience and the impact on receivables investment for the entire period of measurement, and each monthly period.

Cornelius Casey and Norman Bartczak, "Operating Cash Flow Data and Financial Distress: Some Empirical Evidence," working paper, 1983.

The authors' purpose is to assess whether operating cash flow data and related measures improve the ability to discriminate between bankrupt and nonbankrupt firms. The authors used canonical correlation analysis, multiple discriminant analysis, and stepwise logit analysis and find that the operating cash flow data does not possess informational value for classifying failed firms.

Cornelius J. Casey and Norman J. Bartczak, "Cash Flow - It's not the Bottom Line," Harvard Business Review, forthcoming.

This article reports the results of an empirical study of nearly 300 companies over the period 1970 to 1982. Operating cash flow data were examined for their value as a lead indicator of bankruptcy. The results do not support the widely held belief that information on a company's cash flows provides a better measure of operating performance than do the income statement and balance sheet. The cash flow data were not only a less accurate predictor of failure than was a combination of conventional income-based financial ratios, but also failed to improve predictive accuracy when analyzed in conjunction with the income-based ratios.

Kung H. Chen and Thomas A. Shimerda, "An Empirical Analysis of Useful Ratios," Financial Management, Vol. 10 (Spring 1981), pp. 51-60.

The authors use empirical studies to select financial ratios useful for evaluating performance and financial condition of an entity. These financial ratios are then classified by seven factors: return on investment; financial leverage; capital turnover; short-term liquidity; cash position; inventory turnover; and receivables turnover. The ratios within each factor are highly correlated and the selection of only one ratio to represent each factor is advised because of multicollinearity and sample-sensitivity. A theory that identifies the set of ratios providing the highest level of information is anticipated in the future.

Richard A. Cohn and John J. Pringle, "Steps Toward an Integration of Corporate Financial Theory," in Keith V. Smith, ed., Readings on the Management of Working Capital, St. Paul, West Publishing Company, 1980, pp. 35-42.

The authors discuss the modification of the Capital Asset Pricing Model (CAPM) to combine investment and capital structure decisions with working capital decisions. They propose the dropping of the assumption of perfect financial markets and the explicit introduction of market imperfections. The perfect-market assumption does not allow corporate financial theory to be applied to a large area of problems including working capital decisions, and by dropping the assumption of perfect financial markets it allows corporate financial theory to be viewed in a single period framework.

Robert A. Collins, "An Empirical Comparison of Bankruptcy Prediction Models," Financial Management, Vol. 9 (Summer 1980), pp. 52-57.

Using a large sample of credit unions, this paper compares the Altman (1968) and the Meyer and Pifer (1970) methods of bankruptcy prediction. The simpler Altman model performs just as well as or better than the more theoretically appealing Meyer and Pifer model, whose additional sophistication does not appear to be justified by any increase in predictive ability.

A. W. Corcoran, "The Use of Exponentially-Smoothed Matrices to Improve Forecasting of Cash Flows from Accounts Receivable," Management Science, Vol. 24 (March 1978), pp. 732-739.

The author presents an exponentially-smoothed transition matrix for the forecasting of cash flows from accounts receivable. This model avoids two limiting assumptions of previous models; that the matrix of transition probabilities is constant over time and independent. The two main attributes of this model are that the most recent payment behavior is reflected in the transition matrix and seasonal factors provide a means of adjusting for the prediction error of the previous year.

R. M. Cyert, H. J. Davidson, and G. L. Thompson, "Estimation of the Allowance for Doubtful Accounts by Markov Chains," Management Science, Vol. 8 (April 1962), pp. 287-303.

The authors describe accounts receivable behavior as a transition probability-Markov Chain Process. Given a matrix of transition probabilities and given a vector of new sales (either constant or variable by period), the following results may be obtained: (a) Estimated loss expectancy by age category; (b) The estimated allowance for doubtful accounts; (c) The steady-state age distribution of accounts receivable; (d) Variances for the estimates in (b) and (c) above; (e) Generalization of the above results to the cyclic case.

R. M. Cyert and G. L. Thompson, "Selecting a Portfolio of Credit Risks by Markov Chains," The Journal of Business, Vol. 41 (January 1968), pp. 39-46.

The article builds on Cyert, Davidson and Thompson (1962) to construct a credit control model based on Markov chains, but allowing different transition matrices. The end objective of the model is to enable the firm to arrive at a portfolio of accounts receivable with different proportions of customers in the various risk categories. The method allows the firm to treat its credit customers as assets with different risks and to select a portfolio of credit customers that meets an expected discounted profit-risk criterion for the whole portfolio.

Hans G. Daellenbach, "Are Cash Management Optimization Models Worthwhile?" Journal of Financial and Quantitative Analysis, Vol. 9 (September 1974), pp. 607-626.

The objective of this paper is to determine the upper bounds of the potential savings that can be realized by the application of cash management optimization models. These upper bounds are found by simulation as the difference between the performance of a deterministic optimization model and the simulated performance of a hypothetical treasurer who uses simple heuristic cash management rules. The results cast doubt as to profitability of cash management optimization models.

H. G. Daellenbach, "A Stochastic Cash Balance Model With Two Sources of Short-Term Funds," International Economic Review, Vol. 12 (June 1971), pp. 250-256.

This paper generalizes the Eppen-Fama (1969) discrete cash balance model with proportional transaction costs, whose approach uses a dynamic programming formulation. In par-

ticular, this study extends the E-F model to situations where: no bank account overdrafts are possible; two sources of short-term funds are available; the probability distribution of cash flows is not necessarily stationary; and the length of the cash balance review periods may vary.

E. B. Deakin, "A Discriminant Analysis of Predictors of Failure," Journal of Accounting Research, Vol. 10 (Spring 1972), pp. 167-179.

The author reviews Beaver's and Altman's models for predicting failure based on financial reports and proposes an alternative model. The Beaver study is replicated and a linear combination of 14 ratios which best predict failure in each of five years prior to failure is determined. Deakin's approach can be used to predict business failure as far as three years prior to actual failure. The model was derived from a rather small population and should be used as further evidence and not as conclusive proof.

Edward A. Dyl, "Another Look at the Evaluation of Investment in Accounts Receivable," Financial Management, Vol. 6 (Winter 1977), pp. 67-70.

The author examines John S. Oh's (1976) use of total changes in accounts receivable as a measure of the incremental investment associated with a change in a firm's credit policies. He criticizes Oh for failure to distinguish between changes in credit standards and changes in credit periods. Additionally, Oh is criticized for not distinguishing between changes attributable to new sales and those attributed to existing sales. However, Oh is commended for associating opportunity costs with changes in credit periods offered by the firm.

Robert O. Edmister, "An Empirical Test of Financial Ratio Analysis for Small Business Failure," Journal of Financial and Quantitative Analysis, Vol. 7 (March 1972), pp. 1477-1493.

The author tests the usefulness of financial ratio analysis for predicting small business failure. A step-wise multiple discriminant analysis is used to develop a function of independent ratio variables which is highly accurate in classifying small businesses. Nineteen common ratios were used as the discriminating variables. The discriminant function demonstrates an ability as great as those functions recently estimated for large firms, but fails to discriminate when only one statement is available. Three consecutive statements must be used for analysis of small businesses.

Rick Elam, "The Effect of Leaseholds on the Predictive Ability of Financial Ratios," The Accounting Review, Vol. 50 (January 1975), pp. 25-43.

The author determines whether capitalization of non-purchase leases will enable the financial statement user more accuracy to predict firm bankruptcy than present reporting practices. A multivariate model was used to determine the predictive ability of capitalization of non-purchase leases as compared to non-capitalized non-purchase leases. The results show that the addition of capitalized lease data does not increase the predictive ability of financial ratios. However, lease data may be important for other uses of the financial statements.

Gary W. Emery, "Some Empirical Evidence on the Properties of Daily Cash Flow," Financial Management, Vol. 10 (Spring 1981), pp. 21-28.

Statistical properties of daily net cash flows from a sample of three different firms are described. The focus was on normality of distribution, stationarity, and serial dependence. This article increases the awareness of the sensitivity of cash management models to violations in their assumptions, and reviews the realism of the assumptions.

Gary W. Emery, "A Pure Financial Explanation for Trade Credit," Journal of Financial and Quantitative Analysis, forthcoming.

This paper focuses on several financial markets imperfections that explain why firms extend trade credit and how they establish the terms of sale. A borrowing rate of interest that exceeds the lending rate of interest is shown to be a pure financial incentive for trade credit. Additional financial market imperfections act as disincentives which constrain credit policies. The most important finding is that trade credit subjects the firm to a tax on the recovery of its opportunity costs.

Gary W. Emery and Kenneth O. Cogger, "The Measurement of Liquidity," Journal of Accounting Research, Vol. 20 (Autumn 1982), pp 290-303.

The authors consider ways of measuring liquidity by modeling a firm's liquidity position as a Wiener process. They propose two approaches, likelihood of insolvency and relative liquidity. Existing and new empirical studies were used to support the model's underlying assumptions. These liquidity measures avoid restrictive assumptions regarding their application.

Gary D. Eppen and Eugene F. Fama, "Solutions for Cash-Balance and Simple Dynamic Portfolio Problems," The Journal of Business, Vol. 41 (January 1968), pp. 94-112.

In this paper, a linear programming model is used to study the properties of optimal operating policies for stochastic cash-balance and simple dynamic portfolio models. Two basic assumptions of these problems are that the holding and penalty costs are proportional to the level of cash balance and that the costs incurred in transferring funds between cash and earning assets are a linear function of the amount of funds transferred. The general result that linear programming can be used to yield optimal operating policies for finite Markovian decision problems is applied, and thus the model is formulated as a sequential Markovian decision problem.

Gary D. Eppen and Eugene F. Fama, "Cash Balance and Simple Dynamic Portfolio Problems with Proportional Costs," International Economic Review, Vol. 10 (June 1969), pp. 119-133.

This paper is primarily concerned with determining the form of optimal policies for stochastic cash balance problems where transaction costs are strictly proportional to the amount of funds transferred. In addition, the model developed allows the stochastic changes in the cash balance to come from any discrete and bounded probability distribution. The major result is that for given values of the cost parameters and transition probabilities, optimal policies for infinite horizon cash balance problems involving proportional transfer costs are characterized by two return points.

Harry B. Ernst, "New Balance Sheet for Managing Liquidity and Growth," Harvard Business Review, Vol. 62 (March/April 1984), pp. 122-136.

The author describes a new approach in which inventory is treated as a physical, not a financial asset and in which cash and equivalents are combined with receivables and other current assets. As liquidity measures, a number of cases are presented to show how to use the model to make strategic decisions based on a company's growth and liquidity position.

Dan M. Ferguson and Steven F. Mairer, "Disbursement Design for the 1980's," Journal of Cash Management, Vol. 2 (November 1982), pp. 56-69.

The authors develop an efficient frontier model for evaluating disbursing systems which takes into account the uncertainty and inherent risk of a changing banking environment. The model illustrates that the efficient frontier tradeoffs is critically dependent upon geographic location. The authors explain the float vs. risk tradeoff facing cash managers is the relationship between presentation float and the slippage in the clearing system.

George Foster, "Quarterly Accounting Data: Time Series Properties and Predictive-Ability Results," The Accounting Review, Vol. 52 (January 1977), pp. 1-21.

The author examines the time-series behavior of the quarterly earnings, sales, and expense series of 69 firms over the 1946-1974 period. A Box-Jenkins time-series methodology is used and it is concluded that each series has an adjacent quarter-to-quarter component and a seasonal component. These two components are shown to be successfully modeled at the individual firm level by one-step-ahead forecasting.

Jack Clark Francis and Dexter R. Rowell, "A Simultaneous Equation Model of the Firm for Financial Analysis and Planning," Financial Management, Vol. 7 (Spring 1978), pp. 29-44.

This paper introduces a financial model that moves away from the conventional percentage of sales technique by incorporating explicit economic and behavioral specifications. Treating risk explicitly allows the costs of new equity and debt to be determined endogenously within the model in view of each specific financing requirement. An eight-year simulation study of the model applied to empirical data demonstrates its practical use for financial planning.

Thomas J. Frecka and William S. Hopwood, "The Effects of Outliers on the Cross-Sectional Distributional Properties of Financial Ratios," The Accounting Review, Vol. 63 (January 1983), pp. 115-128.

The authors extend Deakin's (1976) research concerning the cross-sectional distribution properties of financial ratios by examining the effects of outliers on the cross-sectional distributional properties of selected financial ratios. The authors use a gamma probability distribution model and the results indicate that, by deleting outliers, normality or approximate normality can usually be achieved for specific industry groupings. This procedure results in large reductions in relative variances and increases the stability of variances over time.

Lewis P. Freitas, "Monitoring Accounts Receivable," Management Accounting, Vol. 55 (September 1973), pp. 18-21.

> The two principal aspects of receivables control are liquidity and risk. These two aspects are interrelated. One common problem of receivables control is in confusing liquidity and risk by trying to make one analytical tool serve two purposes. The purpose of this article is to present methods for evaluating liquidity and risk separately. The author proposes the weighted average collection period to identify changes in liquidity due to changes in collection patterns and the ratio of write-offs and old uncollected balances to their original sales volume to identify changes in credit risk levels.

James M. Gahlon and James A. Gentry, "On the Relationship Between Systematic Risk and the Degrees of Operating and Financial Leverage," Financial Management, Vol. 11 (Summer 1982), pp. 15-23.

> The authors specify a model for estimating the dependence relationship of systematic risk and sales variability, degree of operating leverage, degree of financial leverage, and the covariance between firm and market cash flows. The model is based on a single-period horizon, but also provides insights into how systematic risk, expected return and value might be affected in a multiperiod setting.

James F. Gatti, John R. Mills and Peter McTague, "The Feasibility of Small Denomination Consumer Note Issues as a Source of Funds for Nonfinancial Borrowers," Financial Management, Vol. 10 (Autumn 1981), pp. 41-53.

> Dramatic increases in interest rates have caused businesses to explore less traditional forms of financing in an effort to minimize capital costs. Early in 1976, a Vermont utility started to examine the possibility of raising short-term capital through the direct sale of securities to the household sector. This article reports on the planning and issue of the 360-day small denomination securities to consumers in 1979. Results show savings in interest expenses and the possibility of a greater market for the notes than had been anticipated.

James A. Gentry, "Global Rationalization and MNCs Trade Credit Policies: Policy Issues," in Governments and Multinationals, edited by Walter H. Goldberg in cooperation with Anant K. Negandhi, Cambridge, Mass.: Oelgeschlager, Gunn & Hain Publishers, Inc., 1983, Chapter 5.

The author reviews current literature on trade credit policy and the capital asset pricing model. The author then tests whether global rationalization of trade credit strategies and policies in multinational corporations (MNCs) results in a significantly lower risk level than is found in national companies (NC), and if the risk determined by the stock market is significantly lower. The analysis found that there was no difference between MNCs and NCs and financial managers of MNCs perceived no advantage from global rationalization of trade credit strategies and policies.

James A. Gentry, "Integrating Working Capital and Capital Investment Processes," in Keith V. Smith, editor, Readings on the Management of Working Capital, West Publishing Company, 1980, pp. 585-608.

The author presents a model which explicitly integrates the working capital components into the capital investment decision-making process. The model extends the traditional capital investment model and finds forecasting error and inflationary conditions to be the primary source of working capital problems. This is a simulation that allows management to test "what if" policy questions and determine the change in net present value.

James A. Gentry, "Simulating the Strategic Financial Planning Process," European Journal of Operational Research, Vol. 3 (November 1979), pp. 441-449.

Decision makers need a stochastic model that links the interaction between the investment and financing processes for the planning period. The model presented in this paper integrates these processes by the use of simulation. The measure used to link these two systems is the rate of return required on new investment in order for decision makers to achieve their desired earnings-per-share growth goal. The model is designed to provide top management a tool to communicate their expectations to lower levels of management, thereby allowing them to measure and evaluate the impact of various sets of assumptions on the company's strategic plans.

James A. Gentry, Paul Newbold, and David T. Whitford, "Bankruptcy, Working Capital and Funds Flow Components," in Gerald H. Lawson and Richard Pike, editors, Managerial Finance, forthcoming in 1984.

The authors present a cash model which utilizes a standard set of theoretically justified components to discriminate between failed and non-failed companies on the basis of cash

flow performance. The study finds dividends, investments, and receivables funds flow components provide significant information for classification purposes.

James A. Gentry, Paul Newbold, and David T. Whitford, "Classifying Bankrupt Firms with Funds Flow Components," Journal of Accounting Research, forthcoming Spring 1985.

The authors' objective of this study is to test whether cash-based funds flow ratios can adequately classify failed and non-failed companies and serve as an alternative to financial ratios. The authors redesign Helfert's model to include eight funds flow components. MDA, probit, and logit techniques were used to examine the predictive ability of the funds flow components. The primary finding of the study is that cash flow based funds flow components offer a viable alternative for classifying failed and non-failed firms.

James A. Gentry, Paul Newbold, and David T. Whitford, "Comparing Funds Flow Components to Financial Ratios as Predictors of Bankruptcy," working paper, University of Illinois, November 1983.

The authors use a cash-based funds flow model to determine a uniform set of funds flow components to differentiate between failed and non-failed firms. This model measures the same information for all firms regardless of the time period or the composition of the data sample. MDA, probit and logit were used to test the classification ability of the funds flow components. The study shows funds flow components are superior to financial ratios in the classification of failed companies. The logit analysis indicates the dividend component is the only significant predictive variable when ratios and funds flow components are combined.

James A. Gentry and Cheng F. Lee, "Measuring and Interpreting Time, Firm and Ledger Effects," in Cheng F. Lee (editor), Financial Analysis and Planning: Theory and Application, A Book of Readings. Reading, Mass.: Addison-Wesley Publishing Company, 1983, pp. 532-554.

The authors use a relatively unknown and useful feature of the X-11 model to measure the relative percentage contribution of the trend cycle (C), seasonal (S) and irregular (I) component to changes in the original series of income statement variables. The relative contribution of the I, C and S components is a measure of the time, ledger and firm effects, which provides risk benchmarks for internal management and external analysis.

James A. Gentry, Dileep R. Mehta, S. K. Bhattacharyya, Robert Cobbaut, and Jean-Louis Scaringella, "An International Study of Management Perceptions of the Working Capital Process," Journal of International Business Studies, Vol. 10 (Spring/Summer 1979), pp. 28-38.

This study performs a survey to collect information from a sample of marketing, production, and financial executives in large corporations in Belgium, France, India, and the United States. The study interprets management ranking of working capital objectives and indicates the need to improve financial planning models to include explicitly short-run objectives; further, predictability of cash inflows and outflows is examined and the potential factors affecting predictability are evaluated. In addition, this work examines management perceptions of long-range objectives in order to provide a proper perspective to the short-run financial planning.

James A. Gentry and Stephen A. Pyhrr, "Simulating an EPS Growth Model," Financial Management, Vol. 2 (Summer 1973), pp. 68-75.

This work presents a model that simulates the long-run financial planning process of the firm. It is assumed the financial objective of top management is the long-run growth in earnings per share (EPS). A new means of linking the investment and financing processes is presented and it serves as a decision criterion for evaluating investment alternatives. This performance measure is the rate of return on new investment to achieve top management's desired EPS growth goal.

Lawrence J. Gitman, Edward A. Moses, and I. Thomas White, "An Assessment of Corporate Cash Management Practices," Financial Management, Vol. 8 (Spring 1979), pp. 32-41.

This paper concerns itself with actual management practices in cash management. Responses to a questionnaire type of survey provide the basis for an assessment of cash management practices of the nation's leading firms. The firms surveyed seem aware of the basic cash management strategies, although they appear to pay greatest attention to collections, while paying least attention to payments.

Michael J. Gombola and J. Edward Ketz, "A Note on Cash Flow and Classification Patterns of Financial Ratios," The Accounting Review, Vol. 63 (January 1983), pp. 105-114(a).

The authors discuss previous research done on classifying financial ratios into different ratio groups. Previous researchers, who defined cash flow as net income plus depreciation, found cash flow ratios highly associated with return ratios. In this study, cash flow is computed by adjusting net income for all accruals and deferrals. This allows a classification scheme in which cash flow ratios are separate and distinct from return ratios.

Michael J. Gombola and J. Edward Ketz, "Financial Ratio Patterns in Retail and Manufacturing Organizations," Financial Management, Vol. 12 (Summer 1983), pp. 45-56(b).

The authors' purpose is to assess the stability of financial ratio patterns across manufacturing and retailing industries. Both manufacturing and retailing industries are found to exhibit considerable time-series stability of their factor patterns. Because there are unique factors for each industry, the set of ratios used to analyze manufacturing companies are different than the ratios for analyzing retailing companies.

Carl C. Greer, "The Optimal Credit Acceptance Policy," Journal of Financial and Quantitative Analysis, Vol. 2 (December 1967), pp. 399-416.

In this article, two normative, analytical models are developed. The first relates profits, while the second relates opportunity costs, to the number of accepted credit applicants. For a hypothetical company, the profit model is used to determine the optimal number of credit applicants to accept.

P. A. Griffin, "The Time-Series Behavior of Quarterly Earnings: Preliminary Evidence," Journal of Accounting Research, Vol. 15 #1 (Spring 1977), pp. 71-83.

The author presents some preliminary evidence on the time-series behavior of quarterly earnings and examines the relationship between earnings and security prices. Two components to the quarterly earnings process are suggested by a Box-Jenkins model: a four period seasonal component; and an adjacent quarter component which describes the seasonally adjusted series. The author concludes that quarterly earnings may be parsimoniously described as a multiplicative combination of both components, and that successive changes in quarterly earnings are not independent.

Charles W. Haley and Robert C. Higgins, "Inventory Control Theory and Trade Credit Financing," Management Science, Vol. 20 (December 1973), pp. 464-471.

The authors discuss the relationship between inventory policy and trade credit policy. Since inventory is generally purchased with trade credit, order quantity and payment time decisions must be made simultaneously to minimize cost. The significance of credit deficits and credit surpluses is reviewed and conditions in which standard solutions are optimal are also developed.

John A. Halloran and Howard P. Lauser, "The Credit Policy Decision in an Inflationary Environment," Financial Management, Vol. 10 (Winter 1981), pp. 31-38.

This paper develops and analyzes the adjustments to an NPV analysis of credit policy changes that are necessitated by inflation. Cash flows are adjusted for anticipated inflation-induced increases in product price. The adjusted NPV equation provides a more general framework for credit policy decisions by incorporating rising nominal values. It reduces the risk of improper rejection of policy proposals.

Ned C. Hill and Kenneth D. Riener, "Determining the Cash Discount in the Firm's Credit Policy," Financial Management, Vol. 8 (Spring 1979), pp. 68-73.

The authors use a discounted cash flow model to structure the cash discount decision in terms of the cost/benefit tradeoffs. Variable costs and costs of funds are compared to changes in timing of payments, change in sales, proportion of sales expected to be paid with a discount, and change in bad debt. The optimal discount rate is determined through this process. Key general observations are: the lower the variable cost the higher the discount; knowledge of price elasticity is important; the higher the bad debt loss the higher the discount offered; opportunity cost affects credit policy; and the timing of flows is critical to the discount decision model.

William S. Hopwood, James C. McKeown and Paul Newbold, "The Additional Information Content of Quarterly Earnings Reports: Intertemporal Disaggregation," Journal of Accounting Research, Vol. 20 (Autumn 1982), pp. 343-349.

The authors determine the benefits of using quarterly corporate earnings information as opposed to annual earnings totals for predicting next period annual earnings. Two univariate time-series models are used with results of 267 firms. The prediction error variance, based on the annual data, was 15-21 percent higher on average than if quarterly data was used. As additional quarterly earnings become available the gains from their use in predicting the next annual total increased substantially.

Jarl D. Kallberg and Anthony Saunders, "Markov Chain Approaches to the Analysis of Payment Behavior of Retail Credit Customers," Financial Management, Vol. 12 (Summer 1983), pp. 5-14.

The authors develop a number of Markov chain models to analyze the intertemporal behavior of a receivables portfolio. The model was shown to be conceptually simple, flexible and amenable to empirical estimation and testing. The model was applied to a sample of receivables from a large retail firm. The analysis covered a long time span, therefore, inferences could be made concerning the effect of changes in monetary policy and cost of credit on customer behavior.

Yong H. Kim and Joseph C. Atkins, "Evaluating Investments in Accounts Receivable: A Wealth Maximization Framework," The Journal of Finance, Vol. 33 (May 1978), pp. 403-412.

The authors provide a model for evaluating investments in accounts receivable consistent with the goal of wealth maximization. After reviewing the literature, the authors show the net present value method of evaluating investments in accounts receivable is conceptually correct. It provides a framework of analysis which may accommodate all relevant interrelationships.

W. D. Knight, "Working Capital Management - Satisfying vs. Optimization," Financial Management, Vol. 1 (Spring 1972), pp. 33-40.

Examination of reserve-stock models applied successively to inventories, receivables, and cash reveals that, under conditions of probabilistic demand, consideration of operating revenues, costs, and profit also unavoidably enter the analysis. Thus, partial models of optimal current assets are suboptimal. In this article, the author treats working capital management as a special case of the central problem of financial management theory. He proposes to limit the role of optimization to take account of imperfections in knowledge (uncertainties) and to deal simultaneously with the interrelated variables of investment, profit, and risk.

James Largay, III and Clyde P. Stickney, "Cash Flows, Ratio Analysis and the W. T. Grant Company Bankruptcy," Financial Analysts Journal, Vol. 36 (July/August 1980), pp. 51-56.

The authors show traditional ratio analysis did not identify the bankruptcy problem of W. T. Grant until one year prior to the event. However, an analysis of the trend of cash flow from operations reveals the origin of W. T. Grant's failure was identifiable up to 10 years earlier. The cash flow from operations is generated through the working capital approach used to present the sources and applications of funds.

Kenneth W. Lemke, "The Evaluation of Liquidity: An Analytical Study," Journal of Accounting Research, Vol. 8 (Spring 1970), pp. 47-77.

The apparent analytical simplicity of some financial ratios is deceptive, and a reexamination of their rationale is a useful complement to empirical investigation of their utility. The purpose of this paper is to critically evaluate the current ratio, and, in the light of resultant insights, to propose a new liquidity index to replace it. It is shown that when the sales rate is varied, but efficiency of working capital management and liquidity are held constant, the current ratio may exhibit any one of several possible behavior patterns. Thus, neither absolute values nor trends in the current ratio can be given a consistent general interpretation.

Eugene M. Lerner, "Simulating a Cash Budget," California Management Review, Vol. 11 (Winter 1968), pp. 79-86.

In this study, the cash needs of a hypothetical firm are studied, and one technique of simulation is described. Using the technique, the financial manager is able to forecast future cash requirements, experiment with different financial approaches, and evaluate information. Different alternatives are analyzed in terms of their impact on cash balances.

Baruch Lev, "On the Association Between Operating Leverage and Risk," Journal of Financial and Quantitative Analysis, Vol. 9 (September 1974), pp. 627-642.

The author's objective was to advance the understanding of the risk-generating process operating in capital markets by investigating the relationship between operating leverage and risk. Differences in the production process affecting

the relative shares of fixed and variable costs were found to be associated with risk differentials. Other things equal, the higher the operating risk the larger the overall and systematic risk of the stocks. Historical returns are found inappropriate to determine risk if there is a change in operating leverage.

Ferdinand K. Levy, "An Application of Heuristic Problem Solving to Accounts Receivable Management," Management Science, Vol. 12 (February 1966), pp. B-236 - B-244.

This paper describes an application of a method of management science to the problem of locating lockboxes. It discusses the problem of measuring the goodness of one set of lockbox locations relative to another. After proposing a solution to this problem, it formulates a heuristic program designed to select lockboxes for a particular company from a set of possible locations. The study includes an application of the heuristic program to an actual problem.

Wilbur G. Lewellen, John J. McConnell and Jonathan A. Scott, "Capital Market Influences on Trade Credit Policies," Journal of Financial Research, Vol. 3 (Summer 1980), pp. 105-113.

This article asserts that attempts at describing procedures for establishing optimal trade credit policies are in error because they do not take into full account the competitive capital market environment in which the firms operate. The authors show that in an efficient capital market trade credit is not a significant decision variable.

Wilbur G. Lewellen and R. O. Edmister, "A General Model for Accounts-Receivable Analysis and Control," Journal of Financial and Quantitative Analysis, Vol. 8 (March 1973), pp. 195-206.

This work examines the shortcomings of existing procedures for receivables analysis and develops a more reliable alternative measurement and control technique. A procedure is framed, which is unaffected by fluctuations in credit sales, by arbitrary choices of averaging periods for account grouping, and by the potential distortions involved in aggregating receivables arising from different sales intervals. An application of the technique is provided, and its usefulness for purposes of forecasting future receivables balances is discussed.

Wilbur G. Lewellen and Robert W. Johnson, "Better Way to Monitor Accounts Receivable," Harvard Business Review, Vol. 50 (May-June 1972), pp. 101-109.

After reviewing the methods companies commonly use to monitor receivables and pointing out the flaws they contain, the authors describe a more effective approach. Focusing attention on the critical variables--the ongoing flow of receipts from sales made in a given month--a reporting format is presented that signals changes in the pattern of their flow and allows management to trace these changes to their sources.

Robert Libby, "Accounting Ratios and the Prediction of Failure: Some Behavioral Evidence," Journal of Accounting Research, Vol. 13 (Spring 1975), pp. 150-161.

This paper reports the results of a field study designed to jointly evaluate the predictive power of ratio information and the ability of loan officers to evaluate that information in the business failure prediction context. In the experiment, loan officers predicted business failure from a small set of accounting ratios. The usefulness of the information to the participants was measured in terms of the accuracy of the loan officers' predictions.

Zvi Lieber and Yair E. Orgler, "An Integrated Model for Accounts Receivable Management," Management Science, Vol. 22 (October 1975), pp. 212-219.

The authors present a model for accounts receivable which integrates cash discounts, discount period, credit period, service charges and penalties, collection expenditure, and past due accounts. This model is complex, but is useful with a limited number of elements. This model is a useful tool for accounts receivable management.

John F. Magee, "Guides to Inventory Policy: Problems of Uncertainty," Harvard Business Review, Vol. 34 (March-April 1956), pp. 103-116.

In this study, the author identifies two different types of inventory replenishment systems designed to handle uncertainty about sales: fixed order and periodic reordering. The fundamental problem of setting safety stocks under either system is balancing a series of types of costs which are not found in the ordinary accounting records. In addition, the specific problem of inventory control, including

production scheduling, varies widely from company to company. In order to illustrate the mathematical models used to handle these problems, a hypothetical case is set forth were a company is moved through a series of stages of inventory control.

Steven F. Mairer, David Robinson and James H. Vander Weide, "A Short-Term Disbursement Forecasting Model," Financial Management, Vol. 10 (Spring 1981), pp. 9-20.

The authors present a linear programming model of a firm's daily disbursements. It follows the logic of the payment patterns approach to cash forecasting. Three main features of the model are that: 1) it dynamically revises its cash forecast for future periods; 2) it tracks and updates the distribution of check processing times; and 3) it produces reports that alert the manager to significant changes in cash flows. This model is most useful for companies not using controlled disbursing banks and whose required cash balances are insufficient to sustain the uncertainties associated with check clearing.

Stephen F. Mairer and James H. Vander Weide, "A Practical Approach to Short-Run Financial Planning," Financial Management, Vol. 7 (Winter 1978), pp. 10-16.

The authors describe a linear programming model of short-run/financial investment decisions that overcomes the problems of expensive computer time and large data input. This is a user oriented model which integrates cash forecasting and newly available reporting systems. This model is appropriate for firms with large short-term borrowing where a 5%-10% savings is significant and cash flows can be predicted accurately. The primary contribution of the model is in making instantaneous comparisons at low cost.

Stephen F. Mairer and James H. Vander Weide, "What Lockbox and Disbursement Models Really Do," Journal of Finance, Vol. 38 (May 1983), pp. 361-372.

The authors review the state of the art of lockbox and disbursement system studies, and feel that present literature fails to recognize the complexity of disbursement location problems. The practical implementation of disbursement and lockbox systems is discussed with an emphasis on the importance of data and the simplicity of the mathematical formulations. The increased precision in database is considered to be the most important change in lockbox systems.

Stephen F. Mairer and James H. Vander Weide, "The Lock-Box Location Problem: A Practical Reformulation," Journal of Bank Research, Vol. 5 (Summer 1974), pp. 92-95.

The authors present a practical and computationally efficient formulation of the location-allocation problem, which is especially appealing when variable and fixed charges for lock-box services are both costly and difficult to attain. This model requires fewer lock-box prices in order to solve the lock-box problem, and it includes search negotiation and administration costs not included in an earlier model. This approach more closely approximates the firm's true costs of a lock-box system and does not need to be repeated from scratch if lock-box prices change.

Paul Mampilly, "Pipe Line Theory on Working Capital," Vikalpa, Vol. 1, (July 1976), pp. 7-21.

The author develops a model which traces the cash cycle of a firm. The length of the cash cycle is a function of the technology employed by a firm and is composed of the process and collection intervals. The author focuses on the consumption and generation of funds, the determinants of a stock of funds, and explaining when the system is a user or provider of funds.

Gershon N. Mandelker and S. Ghon Rhee, "The Impact of the Degrees of Operating and Financial Leverage on Systematic Risk of Common Stock," Journal of Financial and Quantitative Analysis, Vol. 19 (March 1984), pp. 45-57.

This study address the issue of the real determinants of the CAPM's beta, in particular its relationship with the degrees of operating and financial leverage. Two empirical issues are explored: first, the paper examines the joint impact of the degrees of operating and financial leverage on the systematic risk of common stock. Second, this work addresses the issue of "trade-offs" between operating and financial leverage, while investigating their combined effects on the systematic risk of common stock. The study provides empirical evidence of the hypothesis that the trade-off option enables the firm to make asset (capital) structure decisions irrespective of their impact on systematic risk.

Dileep Mehta, "The Formulation of Credit Policy Models," Management Science, Vol. 15 (October 1968), pp. B-30 - B-50.

This study examines two problems: first, formulation of credit extension policy for a specific request or account; and second, evaluation of the effectiveness of such a policy. Operating decision rules for credit-extension are derived from examination of past experience concerning bad-debt levels, credit period length, collection activities, and lost sales levels. The situation is then reversed: indices in terms of bad-debt levels, receivable levels, and so forth, are computed to measure the impact of credit-extension procedures on the subsequent phases of credit policy.

Paul A. Meyer and Howard W. Pifer, "Prediction of Bank Failures," The Journal of Finance, Vol. 25 (September 1970), pp. 853-868.

This paper presents an empirical analysis of bankruptcy using banking as the sample industry. The technique employed is regression analysis with dichotomous dependent variables, the regressors being the value and trend of selected balance sheet and income variables. The regressions differ in the number of independent variables and in the lead time of the data to failure. The two major conclusions are, first, that even when failure results from financial irregularities, financial measures can evaluate the relative strength of firms; second, much more than the current financial position is needed to discriminate among bank groups.

Merton H. Miller and Daniel Orr, "A Model of the Demand for Money by Firms," Quarterly Journal of Economics, Vol. 80 (August 1966), pp. 413-435.

The Baumol (1952) model serves as the point of departure for this paper. That model is considered less satisfactory when applied to business firms, whose cash balance fluctuates irregularly (and to some extent unpredictably) over time in both directions. This paper develops an analytical model that incorporates both the stochastic characteristics of cash balance movements for business firms and the critical, lumpy transfer cost feature of the Baumol model.

R. Charles Moyer, "Forecasting Financial Failure: A Re-Examination," Financial Management, Vol. 6 (Spring 1977), pp. 11-17.

This paper re-examines the Altman bankruptcy model in light of issues raised regarding its appropriateness. In order to test the temporal and firm size validity of the original

model, a new body of data was used. The Altman model parameters were re-estimated and compared with an alternative MDA model which makes use of Beaver's cash flow/debt and Lev's balance sheet decomposition measures.

R. Charles Moyer, "Reply to 'Examining Moyer's Re-Examination of Forecasting Financial Failure,'" Financial Management, Vol. 7 (Winter 1978), pp. 80-81.

This is a rejoinder to Altman's (1978) comment on Moyer (1977). Moyer concedes that he did not specify clearly the sample used, but stresses that his main point is that, under any definition one chooses to use, the one-year forecasting accuracy of the original model is nowhere near the reported predictive accuracy of 95% when its parameters are applied to a sample of larger firms from a later time period. Moyer also emphasizes that the model can be of greatest use when it makes it possible to identify not only if, but also when, a firm is likely to face financial difficulties.

Robert M. Nauss and Robert E. Markland, "Solving Lock Box Location Problems," Financial Management, Vol. 8 (Spring 1979), pp. 21-31.

One of the most important objectives of cash management is the development of an efficient receivables collection system. The basic objective of this article is to describe the development and application of an efficient algorithm for solving large-scale lock box location problems. It discusses practical data collection, modeling, and implementing a lock box location solution. It presents and discusses test results from application of the model.

John S. Oh, "Opportunity Cost in the Evaluation of Investments in Accounts Receivable," Financial Management, Vol. 5 (Summer 1976), pp. 32-36.

The author argues that using the ratio, variable cost to selling price (VC/P), to compute the amount of marginal investment in additional receivables understates the magnitude of the opportunity cost. Also, it misrepresents the size of the firm's projected allocation of resources. The market value of credit sales should be used to measure the investment in accounts receivable. Cash flows are advocated for use as the resource allocator instead of accrued funds component which underestimates the real use. The possibility of integrating the capital budgeting framework for accounts receivable is considered.

James A. Ohlson, "Financial Ratios and the Probabilistic Prediction of Bankruptcy," Journal of Accounting Research, Vol. 18 (Spring 1980), pp. 109-131.

> This paper presents empirical results of a study predicting corporate failure as evidenced by the event of bankruptcy. The method utilized is maximum likelihood estimation of the conditional logit model. The major findings of the study are: (1) it was possible to identify four basic factors as being statistically significant in affecting the probability of failure (within one year) and (2) previous studies appear to have overstated the predictive (in the sense of forecasting) power of models developed and tested.

James L. Pappas and George P. Huber, "Probabilistic Short-Term Financial Planning," Financial Management, Vol. 2 (Autumn 1973), pp. 36-44.

> The development and use of probabilistic data for short-term credit decisions are analyzed. The generation of subjective estimates of future events and their incorporation into a simulation are contrasted with standard point estimate forecasts of credit requirements. When historical cash flows are not to be representative of future flows, either point forecasts or distributed forecasts used in simulation must be obtained judgmentally.

George A. Pinches, A. A. Eubanks, Kent A. Mingo, and J. Kent Caruthers, "The Hierarchical Classification of Financial Ratios," Journal of Business Research, Vol. 3 (October 1975), pp. 295-310.

> The authors conduct a study of 48 financial ratios from 221 industrial firms from 1968-1969 to determine the stability of empirically based financial ratio groups. Forty of the 48 ratios were classified into seven distinct categories based on their empirical similarity. The seven categories are: return on investment, financial leverage, capital turnover, short-term liquidity, cash position, inventory turnover, and receivable turnover. Different groupings are shown for different predictive abilities such as bond rating, bankruptcy, and merger candidates.

George E. Pinches and Kent A. Mingo, "A Multivariate Analysis of Industrial Bond Ratings," The Journal of Finance, Vol. 28 (March 1973), pp. 1-18.

> This study develops and tests a factor analysis - multiple discriminant model for predicting industrial bond ratings. Bond ratings are considered as based, in part, on available

statistics depicting a firm's operating and financial condition and also on the rater's qualitative judgment. The joint application of factor analysis and M-group multiple discriminant analysis, in a financial context, is found to be both viable and essential in developing and understanding the model for predicting industrial bond ratings.

John R. P. Powell and Roger C. Vergin, "A Heuristic Model for Planning Corporate Financing," Financial Management, Vol. 4 (Summer 1975), pp. 13-20.

A major concern in corporate finance is the determination of the firm's financial structure, in the face of multiple financial objectives. A computer based heuristic model is presented for assisting the financial manager in evaluating alternative capital structures. The financial objectives considered include such factors as assets and earnings, growth patterns, solvency, dividend policy, and exposure to acquisition.

Alan K. Reichert, Chien-Ching Cho, and George M. Wagner, "An Examination of the Conceptual Issues Involved in Developing Credit-Scoring Models," Journal of Business and Economic Statistics, Vol. 1 (April 1983), pp 101-114.

This article examines the theoretical requirements of the MDA model in the context of a realistic lending situation and illustrates the extent of bias when these theoretical assumptions are not fully met. The article concludes that failure to meet rigorously all the theoretical assumptions of the statistical model may not be as critical as insuring that credit managers fully understand the limitations of these types of decision tools. The evidence indicates that statistical models other than MDA are possibly more relevant to the credit-granting decision.

Verlyn D. Richards and Eugene J. Laughlin, "A Cash Conversion Cycle Approach to Liquidity Analysis," Financial Management, Vol. 9 (Spring 1980), pp. 32-38.

The authors explain that static liquidity indicators can provide inadequate information about cash flow attributes of a firm's working capital position. The cash conversion cycle approach measures the conversion of inventory, receivables, and payables into cash and it provides insights into the timing of funds flows. In summary, the cash conversion cycle reflects the liquidity position of a firm.

A. A. Robichek, D. Teichroew, and J. M. Jones, "Optimal Short-Term Financing Decision," Management Science, Vol. 12 (September 1965), pp. 1-36.

The authors formulate a mathematical model for the short-term financing problem under certainty and solve it through the use of a linear programming (LP) routine. They demonstrate the inexistence of simplified decision rules that lead to optimum decisions even if the parameters are held constant. Extends the discussion to an analysis of marginal costs (shadow prices) and suggest extensions to allow for uncertainty.

Kanwal D. Sachdeva and Lawrence J. Gitman, "Accounts Receivable Deeisions in a Capital Budgeting Framework," Financial Management, Vol. 10 (Winter 1981), pp 45-49.

The authors compare Dyl's (1977) heuristic approach and Weston's and Tuan's (1980) NPV approach for decision making in accounts receivable. The authors conclude that heuristic methods of making working capital decisions can be reconciled with more precise NPV methods, but given the congruent conclusions, the decision-maker interested only in assessing the acceptability of an accounts receivable decision may choose to use Dyl's approach rather than the potentially more complex NPV approach.

William L. Sartoris and Ned C. Hill, "Evaluating Credit Policy Alternatives: A Present Value Framework," Journal of Financial Research, Vol. 4 (Spring 1981), pp. 81-89.

The authors formulate an operational decision model which combines cash flow analysis and credit policy. The model is presented under conditions involving timing, bad debt, discounts, sales growth, price changes, and inventory effects. The key components that effect credit policies are the magnitude and timing of the cash flows, and the discount rate. This model determines if credit policies increase or decrease the value of the firm.

William L. Sartoris and Ned C. Hill, "A Generalized Cash Flow Approach to Short-Term Financial Decisions," Journal of Finance, Vol. 38 (May 1983), pp. 349-360.

The authors present a net present value framework for making credit policy decisions which incorporates interactions between the various working capital flow elements. The authors argue that an integrated approach can be more fruitful than

a compartmentalized approach. The model introduces uncertainty and three methods for dealing with uncertainty in short run decisions. They are: explicit pricing; simulation; and risk neutralization.

William L. Sartoris and M. Lynn Spruill, "Goal Programming and Working Capital Management," Financial Management, Vol. 3 (Spring 1974), pp. 67-76.

The authors discuss a model designed to use different sets of priorities for the attainment of profitability and liquidity goals. Goal Programming (GP) and linear programming are combined to develop a one-period financial model which takes these dual goals into account. Managers can vary different priorities to test sensitivity. The use of priorities allows managers to simultaneously meet profitability and liquidity goals.

Michael Schiff and Zvi Lieber, "A Model for the Integration of Credit and Inventory Management," Journal of Finance, Vol. 29 (March 1974), pp. 133-141.

The authors present an integrative dynamic model for receivables and inventory management as a guide to better planning and operation. This model optimizes credit policy and inventory policy. The results of the model show that fluctuations of the demand curve over time will cause changes in both inventory policy and credit terms. This indicates that credit terms should change with seasonality, even when these changes are not continuous over time.

Robert A. Schwartz, "An Economic Model of Trade Credit," Journal of Financial and Quantitative Analysis, Vol. 9 (September 1974), pp. 643-658.

This paper identifies two basic reasons for credit sales: a financing motive and a transactions motive. The work is concerned with the financing motive; the transactions motive is assumed absent. A model is presented which develops firm equilibrium when sales are made on credit, and treats the specification of delayed payment arrangements as an integral part of a firm's pricing policy. A determinate solution is given to a joint output, pricing, and credit decision. Implications for the interaction between aggregate monetary policy and the output, pricing, and trade credit decisions of firms are analyzed.

James Scott, "The Probability of Bankruptcy: A Comparison of Empirical Predictions and Theoretical Models," Journal of Banking and Finance, Vol. 5 (1981), pp. 317-344.

This paper reviews and integrates the empirical models developed in the last decade to predict corporate bankruptcy with several bankruptcy theories. A substantial amount of overlap is found between these two strands of research; however, the overlap is not perfect. The paper presents a new theory of bankruptcy that appears to fit the data better. Some directions for future theoretical and empirical research are presented.

David F. Scott and Lawrence J. Moore, "Simulating Cash Budgets," Journal of Systems Management, Vol. 24 (November 1973), pp. 28-33.

This article illustrates a probabilistic approach to increase the usefulness of information already required for a cash budget system. The approach does not assume knowledge of probability theory by management to make the technique operational. The basic information is provided in the already existent cash budgeting process.

C. W. Sealey, Jr., "Financial Planning With Multiple Objectives," Financial Management, Vol. 7 (Winter 1978), pp. 17-23.

Financial planning problems with multiple conflicting objectives are the subject of this paper. While goal programming is the solution method most often applied to such problems, its application may result in inefficient decisions. This work discusses multiobjective linear programming and compares the two methods by using a numerical example.

Alan Shapiro, "Optimal Inventory and Credit-Granting Strategies Under Inflation and Devaluation," Journal of Financial and Quantitative Analysis, Vol. 8 (January 1973), pp. 37-46.

This paper discusses inventory purchase strategies and credit granting policies in soft currency countries, e.g., those countries whose currencies are likely to be devalued, under both inflation and the threat of devaluation. Internal currency devaluation is a situation common to those countries. The particular model used is the special case of dynamic programming problems known as stopping rule problems.

Jae K. Shim, "Estimating Cash Collection Ratios from Credit Sales: A Lagged Regression Approach," Financial Management, Vol. 10 (Winter 1981), pp. 28-30.

This article supplements the payment pattern approach developed by Bernell Stone (1976). A lagged regression approach is used to show how financial managers can estimate future cash collections and bad debt from credit sales. The model also creates a probable cash budget displaying expected values. The use of this process is inexpensive and pragmatic.

Keith V. Smith, "State of the Art of Working Capital Management," Financial Management, Vol. 2 (Autumn 1973), pp. 50-55.

The author summarizes eight somewhat distinct approaches to working capital management as representative of the existing literature. Aggregate guidelines, constraint set, and cost balancing are partial models. Probability models and portfolio theory stress future uncertainty and interdependencies. Mathematical programming, multiple goals, and financial simulation have a broader systematic focus. The important features of each method are discussed, and contribution to a future working capital model are developed around a liquidity/profitability tradeoff framework.

Keith V. Smith, "On Working Capital as an Investment by the Firm," in Keith V. Smith, editor, Readings on the Management of Working Capital, West Publishing Company, 1980, pp. 609-624.

The author argues that working capital ought to be viewed as an investment, and that changes in working capital policies ought to be included in the capital budgeting process of a firm. The emphasis should be on relative changes instead of absolute levels of working capital for each working capital investment, and should be evaluated along-side of long-term investment projects as part of the firm's capital budgeting process. There are two limitations: 1) all projects are assumed to be independent; 2) liquidity and risk are absent.

Arthur Snyder, "Principles of Inventory Management," Financial Executive, Vol. 32 (April 1964), pp. 13-21.

The purpose of this study is to analyze the development and application of the principles of inventory control. Three fundamental concepts which form the foundation of any sound inventory control system are analyzed: classification, order point, and economic lot size. The paper also discusses a variation of the theory of economic ordering quan-

tity (EOQ) which shows how the EOQ can be interpreted as a quantity range rather than a fixed quantity, imparting flexibility to the production and inventory control system.

Bernell K. Stone, "Cash Planning and Credit Line Determination with a Financial Statement Simulator: A Cash Report on Short-Term Financial Planning," Journal of Financial and Quantitative Analysis, Vol. 8 (December 1973), pp. 711-729.

This paper presents a model for solving a central problem of short-term financial management: cash planning and credit line determination. The model is an algorithmic procedure that is computationally efficient and avoids solving a mathematical programming problem. The main benefits of the model are: 1) quick determination of infeasibility with respect to the short-term plan; 2) increased accuracy in cash planning; and 3) saved time. The basic approach of this model is applicable to most non-financial firms.

Bernell K. Stone, "Allocating Credit Lines, Planned Borrowing and Tangible Services over a Company's Banking System," Financial Management, Vol. 4 (Summer 1975), pp. 65-78.

The author designs models to determine the optimal allocation of check activity, deposit activity, credit lines, and planned borrowing levels among a firm's banks. A global model is presented which combines all of these tasks, but due to computational complexity, a two-step method is recommended when applying the model. The two-step heuristic model is closely related to the current practice of financial managers.

Bernell K. Stone, "The Payment Pattern Approach of the Forecasting and Control of Accounts Receivable," Financial Management, Vol. 5 (Autumn 1976), pp. 65-72.

The author develops the payment pattern model for forecasting and controlling accounts receivable. Payment patterns are independent of sales, therefore, as a credit control mechanism, the payment pattern model is shown to be superior to the aging schedule and average day's sales in receivables. The payment pattern model provides more precise control, better evaluation, and greater forecast accuracy than other credit analysis tools.

Bernell K. Stone, "Design of a Receivable Collection System," Management Science, Vol. 27 (August 1981), pp. 876-880.

The author presents a model for solving the problem of a receivables collection system that is an extension of sequential building heuristics. A simple method for eliminating "premature termination" and unprofitable inclusion is presented and initiation procedures that increase computational efficiency and reduce the likelihood of significant suboptimization are shown. Finally, the simple one-at-a-time building procedure is extended to include joint exclusion-building and combination switching-building rules that consider combinations of alternatives rather than a one-at-a-time evaluation. Heuristic and optimization techniques are better thought of as complements for solving complex problems rather than as competitive techniques.

Bernell K. Stone, "The Design of a Company's Banking System," Journal of Finance, Vol. 38 (May 1983), pp. 373-83.

The author provides a model for determining the optimal banking system for a firm. The model is a revision of earlier models, but reflects more accurately present banking practice through changes in the objective function and constraints. Developing a cash budget and designing a banking system is a task that must be solved jointly. Realizing the benefits of the new compensation alternatives (fees, zero-interest time deposits, long-period averaging) creates interdependencies between cash budgeting, credit requirement determination, and bank system design.

Bernell K. Stone, "The Use of Forecasts and Smoothing in Control-Limit Models for Cash Management," Financial Management, Vol. 1 (Spring 1972), pp. 72-84.

The author examines management of the aggregate cash position. The timing and amount of security purchases and sales are determined in the context of a two-level control-limit inventory model that employs a look-ahead heuristic. Maturity structure of transactions is determined by a smoothing heuristic that takes account of the trade-off between portfolio return and transaction cost savings.

Bernell K. Stone and Tom Miller, "Daily Cash Forecasting: A Structuring Framework," Journal of Cash Management, Vol. 1 (October 1981), pp. 35-50.

The authors' objective is to deal with the "art of forecasting" from the viewpoint of a manager by providing a framework within which statistical techniques may be used when appropriate. Problem structuring is the crux of daily cash forecasting and involves the reduction to subproblems, separating major from nonmajor flows, and breaking the nonmajor flows

into appropriate components. Approach selection, measurement modeling, and statistical technique are the three other steps in the authors four step framework. The benefits of this framework are organization, logical design for part of the treasury information system, input to the design of a company's banking system, and control benefits.

Bernell K. Stone and Ned C. Hill, "Cash Transfer Scheduling for Efficient Cash Concentration," Financial Management, Vol. 9 (Autumn, 1980), pp. 35-43.

This paper provides background on cash concentration, reviews current scheduling practices, including several rule-of-thumb procedures then used to develop cash transfer schedules, formulates cash transfer scheduling as an optimization problem, and briefly relates cash transfer scheduling to the design of a cash concentration system.

Bernell K. Stone and Robert A. Wood, "Daily Cash Forecasting: A Simple Method for Implementing the Distribution Approach," Financial Management, Vol. 6 (Fall 1977), pp. 40-50.

The authors structure the daily cash forecasting problem. Major and nonmajor cash flows are determined and the components of the flows are decomposed. A dummy variable regression technique is used to create a daily cash forecast. The major advantages of the dummy variable approach are its ease of use, simplicity, and low cost. The disadvantages are a lack of completeness, its dependence on the cash budget and the concern that cash flows might shift over time. This regression based forecasting methodology is most applicable to intermediate companies with annual sales between 50-500 million.

James C. Van Horne, "A Risk-Return Analysis of a Firm's Working Capital Position," The Engineering Economist, Vol. 14 (Winter 1969), pp. 71-88.

In this paper, a method is proposed by which management is able to analyze the risk-return tradeoff for various levels of liquid assets for the firm and for different maturing composition of its debt. Together, these factors determine its working capital position. Certain probability concepts are employed and information is provided about the risk of cash insolvency for alternative strategies. In addition, the opportunity costs of these strategies are determined.

Terlochan S. Walin, "Explicit and Implicit Cost of Changes in the Level of Accounts Receivable," Financial Management, Vol. 6 (Winter 1977), pp. 75-78.

The author discusses the two costs associated with the changing of the level of accounts receivable, explicit and opportunity, and shows the inconsistencies involved in only considering the explicit costs. The author concludes that in order to make a rational credit policy decision the firm should be aware of both explicit and opportunity costs, with the larger of the two being most relevant.

J. M. Warren and John P. Shelton, "A Simultaneous Equation Approach to Financial Planning," The Journal of Finance, Vol. 36 (December 1971), pp. 1123-1142.

This paper develops a model to deal with the problem of overall corporate financial planning, as opposed to a subset such as capital budgeting. The model provides a simultaneous solution of a system of equations which portray the functioning of the firm. It outlines a technique for financial planning that permits a decision maker to simulate the financial impacts of changing assumptions regarding such variables as sales, operating ratios, price/earnings ratios, retention rates, debt to equity ratios.

J. Fred Weston and P. D. Tuan, "Comment on the Analysis of Credit Policy Changes," Financial Management, Vol. 9 (Winter 1980), pp. 59-63.

The authors explain how the methodology of two alternative measures, Hill and Reiner (1979) and approximation, of credit policy change give similar results. The methodology measures net present value of changes in cash discounts, collection policies, credit terms, and credit standards. These changes are affected by the collection period on new sales, change in collection period on old sales, and other working capital investments.

Jarrod W. Wilcox, "A Simple Theory of Financial Ratios as Predictors of Failure," Journal of Accounting Research, Vol. 9 (Autumn 1971), pp. 389-395.

The purpose of this study is to develop a theoretical model to explain Beaver's (1966) results and which gives rise to hypothesis which could be even better predictors. Well-known financial ratios may be inferior predictors because they do not incorporate variables relating to real risk. A key component of the risk is identified as closely related to the variance of net cash flow after taxes less dividends and less expenditure on illiquid assets.

SHORT-TERM FINANCIAL DECISION MAKING: AN ANNOTATED BIBLIOGRAPHY

REFERENCE MATRIX

	CASH FLOW -EARNINGS (FORECASTING)	CASH FLOW -MANAGEMENT	CASH MANAGEMENT THEORY	CASH AND CREDIT MANAGEMENT	CREDIT ANALYSIS	CREDIT/ RECEIVABLES MANAGEMENT	CREDIT THEORY	FAILURE	FINANCIAL PLANNING AND FORECASTING	GENERAL THEORY/VALID-ATION MODELS	INVENTORY MANAGEMENT	INVENTORY/ CREDIT MANAGEMENT	LIQUIDITY MEASUREMENT	OPERATING LEVERAGE	SHORT-TERM FINANCING
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Table 1

CASH FLOW - Earnings (Forecasting)

- Ang, Chua and Sellers (1979)
- Brown and Kozelt (1979)
- Foster (1977)
- Gentry and Lee (1984)
- Griffin (1977)
- Hopwood, McKeown and Newbold (1982)
- Lerner (1968)
- Stone and Miller (1981)
- Stone and Wood (1977)

Table 2

CASH FLOW - Management

- Ferguson and Maher (1982)
- Scott and Moore (1973)
- Stone (1981)

Table 3

CASH MANAGEMENT THEORY

- Baumol (1952)
- Daellenbach (1971)
- Eppen and Fama (1968)
- Eppen and Fama (1969)
- Miller and Orr (1966)

Table 4

CREDIT ANALYSIS

- Barker and Gosman (1980)
- Chen and Shimerda (1981)
- Frecka and Hopwood (1981)
- Pinches, Eubanks, Mingo and Caruthers (1975)
- Pinches and Mingo (1971)

Table 5

CREDIT/RECEIVABLES MANAGEMENT

- Alexander and Gahlon (1980)
- Atkins and Kim (1977)
- Benishay (1966)
- Carpenter and Miller (1979)
- Dyl (1977)
- Freitas (1973)
- Gentry (1984)
- Gitman, Moses and White (1979)
- Hill and Riener (1979)
- Kallberg and Saunders (1981)
- Lewellen and Edmister (1973)
- Lewellen and Johnson (1972)
- Lieber and Orgler (1975)
- Mehta (1968)
- Oh (1976)
- Reichert, Cho and Wagner (1983)
- Sachdeva and Gitman (1981)
- Sartoris and Hill (1981)
- Wallin (1977)
- Weston and Tuan (1980)

Table 6

CREDIT THEORY

- Greer (1967)
- Kim and Atkins (1978)
- Lewellen, McConnell and Scott (1980)

Table 7

FAILURE

- Altman (1978)
- Collins (1980)
- Elam (1975)
- Libby (1975)
- Meyer and Pifer (1970)
- Moyer (1977)
- Moyer (1978)
- Ohlson (1980)

Table 8

FINANCIAL PLANNING AND FORECASTING

- Francis and Rowell (1978)
- Gentry and Pyhrr (1973)
- Gentry (1979)
- Pappas and Huber (1973)
- Powell and Vergin (1975)
- Sealey (1978)

Table 9

GENERAL THEORY/VALUATION MODELS

- Cohn and Pringle (1980)
- Gentry (1980)
- Knight (1972)
- Mamplily (1976)
- Sartoris and Hill (1983)
- Smith (1973)
- Smith (1980)
- Van Horne (1969)
- Warren and Shelton (1971)

Table 10

INVENTORY MANAGEMENT

- Beranek (1967)
- Magee (1956)
- Snyder (1964)

Note: An extensive bibliography on inventory management is being developed and will be available in the fall, 1984.

Table 11

LIQUIDITY MEASUREMENT

- Emery and Cogger (1982)
- Lemke (1970)

Table 12

OPERATING LEVERAGE

- Lev (1974)
- Mandelker and Rhee (1984)

Table 13

SHORT-TERM FINANCING

- Gatti, Mills and McTague (1981)
- Robichek, Teichroew and Jones (1965)

Table 14

CASH FLOW - EARNINGS (FORECASTING)
CASH FLOW - MANAGEMENT

- Emery (1981)[1]
- Maier, Robinson and Vander Weide (1981)
- Maier and Vander Weide (1983)
- Maier and Vander Weide (1978)
- Maier and Vander Weide (1974)
- Nauss and Markland (1979)

Note:
1. See also Table 20 (Cash Flow - Earnings and Liquidity Measurement).

Table 15

CASH FLOW - EARNINGS (FORECASTING)
CASH MANAGEMENT THEORY

- Stone (1972)[1]

Note:
1. See also Table 21 (Cash Flow - Management and Cash Management Theory).

Table 16

CASH FLOW - EARNINGS (FORECASTING)
CREDIT ANALYSIS

- Gombola and Ketz (1983a)[1]
- Gombola and Ketz (1983b)[1]

Note:
1. See also Table 29 (Credit Analysis and Financial Planning and Forecasting).

Table 17

CASH FLOW - EARNINGS (FORECASTING)
CREDIT/RECEIVABLES MANAGEMENT

- Corcoran (1978)
- Stone (1976)[1]
- Stone (1981)[1]

Note:
1. See also Table 23 (Cash Flow - Management and Credit/Receivables Management)

Table 18

CASH FLOW - EARNINGS (FORECASTING)
FAILURE

- Casey and Bartczak (1983)
- Casey and Bartczak (1984)

Table 19

CASH FLOW - EARNINGS (FORECASTING)
FINANCIAL PLANNING AND FORECASTING

- Gentry, Mehta, Bhattacharyya, Cobbaut and Scaringella (1979)

Table 20

CASH FLOW - EARNINGS (FORECASTING)
LIQUIDITY MEASUREMENT

- Emery (1981)[1]

Note:
1. See also Table 14 (Cash Flow - Earnings and Cash Flow - Management).

Table 21

CASH FLOW - MANAGEMENT
CASH MANAGEMENT THEORY

- Batlin and Hinko (1982)
- Daellenbach (1974)
- Stone (1972)[1]

Note:
1. See also Table 15 (Cash Flow - Earnings (Forecasting) and Cash Management Theory).

Table 22

CASH FLOW - MANAGEMENT
CASH AND CREDIT MANAGEMENT

- Stone and Hill (1980)

Table 23

CASH FLOW - MANAGEMENT
CREDIT/RECEIVABLES MANAGEMENT

- Levy (1966)
- Halloran and Lauser (1981)
- Shim (1981)
- Stone (1976)
- Stone (1981)[1]

Note:
1. See also Table 17 (Cash Flow - Earnings (Forecasting) and Credit/Receivables Management)

Table 24

CASH FLOW - MANAGEMENT
GENERAL THEORY - VALUATION MODELS

- Natlin and Hinko (1981)

Table 25

CASH FLOW - MANAGEMENT
LIQUIDITY MEASUREMENT

- Richards and Laughlin (1980)[1]

Note:
1. See also Table 30 (Credit Analysis and Liquidity Measurement)

Table 26

CASH AND CREDIT MANAGEMENT
CREDIT/RECEIVABLES MANAGEMENT

- Stone (1973)[1]
- Stone (1983)[1]

Note:
1. See also Table 27 (Cash and Credit Management and Short Term Financing).

Table 27

CASH AND CREDIT MANAGEMENT
SHORT TERM FINANCING

- Stone (1973)[1]
- Stone (1983)[1]

Note:
1. See also Table 26 (Cash and Credit Management and Credit/Receivables Management).

Table 28

CREDIT ANALYSIS
FAILURE

- Altman (1968)
- Altman, Halderman and Narayanan (1977)
- Beaver (1966)
- Beaver (1968a)
- Beaver (1968b)
- Deakin (1972)
- Edmister (1972)
- Gentry, Newbold and Whitford (1983)
- Gentry, Newbold and Whitford (1984)[1]
- Gentry, Newbold and Whitford (1985)
- Largay and Stickney (1980)

Note:
1. See also Table 32 (Credit/Receivables Management and Failure).

Table 29

CREDIT ANALYSIS
FINANCIAL PLANNING AND FORECASTING

- Gombola and Ketz (1983a)[1]
- Gombola and Ketz (1983b)[1]

Note:
1. See also Table 16 (Cash Flow - Earnings (Forecasting) and Credit Analysis).

Table 30

CREDIT ANALYSIS
LIQUIDITY MEASUREMENT

- Richards and Laughlin (1980)[1]

Note:
1. See also Table 25 (Cash Flow - Management and Liquidity Measurement).

Table 31

CREDIT/RECEIVABLES MANAGEMENT
CREDIT THEORY

- Ben-Horim and Levy (1983)
- Bierman and Hausman (1970)
- Bierman, Chopra and Thomas (1975)[1]
- Cyert, Davidson and Thompson (1962)
- Cyert and Thompson (1968)
- Emery (1984)
- Schwartz (1974)

Note:
1. See also Tables 35 (Credit Theory and Financial Planning and Forecasting) and 36 (Credit Theory and Inventory Management).

Table 32

CREDIT/RECEIVABLES MANAGEMENT
FAILURE

- Gentry, Newbold and Whitford (1984)[1]

Note:
1. See also Table 28 (Credit Analysis and Failure).

Table 33

CREDIT/RECEIVABLES MANAGEMENT
INVENTORY MANAGEMENT

- Haley and Higgins (1973)[1]
- Schiff and Lieber (1974)[1]
- Shapiro (1973)[1]

Note:
1. See also Table 42 (Inventory Management and Inventory/Credit Management).

Table 34

CREDIT/RECEIVABLES MANAGEMENT
SHORT TERM FINANCING

- Stone (1975)

Table 35

CREDIT THEORY
FINANCIAL PLANNING AND FORECASTING

- Bierman, Chopra and Thomas (1975)[1]

Note:
1. See also Tables 31 (Credit/Receivables Management and Credit Theory) and 36 (Credit Theory and Inventory Management).

Table 36

CREDIT THEORY
INVENTORY MANAGEMENT

- Bierman, Chopra and Thomas (1975)[1]

Note:
1. See also Tables 31 (Credit/Receivables Management and Credit Theory) and 35 (Credit Theory and Financial Planning and Forecasting).

Table 37

FAILURE
GENERAL THEORY/VALUATION MODELS

- Scott (1981)
- Wilcox (1971)

Table 38

FINANCIAL PLANNING AND FORECASTING
LIQUIDITY MEASUREMENT

- Ernst (1984)

Table 39

FINANCIAL PLANNING AND FORECASTING
OPERATING LEVERAGE

- Brenner and Schmidt (1978)[1]
- Gahlon and Gentry (1982)[1]

Note:
1. See also Table 41 (General Theory/Valuation Models and Operating Leverage).

Table 40

GENERAL THEORY/VALUATION MODELS
LIQUIDITY MEASUREMENT

- Sartoris and Spruill (1974)

Table 41

GENERAL THEORY/VALUATION MODELS
OPERATING LEVERAGE

- Brenner and Schmidt (1978)[1]
- Gahlon and Gentry (1982)[1]

Note:
1. See also Table 39 (Financial Planning and Forecasting and Operating Leverage).

Table 42

INVENTORY MANAGEMENT
INVENTORY/CREDIT MANAGEMENT

- Haley and Higgins (1973)[1]
- Schiff and Lieber (1974)[1]
- Shapiro (1973)[1]

Note:
1. See also Table 31 (Credit/Receivables Management and Inventory Management).